

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-16. (canceled)

17. (currently amended) A write-once-type recording medium comprising:

a data area to record therein record data;

a first control information recording area, which includes a first definite defect management area to record therein defect management information of said data area, to record therein information for controlling at least one of operations of recording and reading in said data area, said first control information recording area being located on inner circumferential side of said data area; and

a second control information recording area, which includes a second definite defect management area to record therein the defect management information of said data area, to record therein information for controlling at least one of operations of recording and reading in said data area, said second control information recording area being located on outer circumferential side of said data area;

a first shared area, which is disposed between said first control information recording area and said data area, to record therein evacuation data which is record data to be recorded at a position of a defect in said data area and to temporarily record therein the defect management information of said data area; and

a second shared area, which is disposed between said second control information recording area and said data area, to record therein the evacuation data and to temporarily record therein the defect management information of said data area,

wherein the defect management information includes (i) an evacuation source address which is an address of the position of the defect in said data area and (ii) an evacuation destination address which is an address of a recording position of the evacuation data, and further includes (iii) a start address of said data area, (iv) an end address of said data area and (v) a size of at least one of said first shared area and said second shared area,

the defect management information is repeatedly recorded in each of the first definite defect management area and the second definite defect management area.

18. (currently amended) The write-once-type recording medium according to claim 17, wherein the evacuation data and the

defect management information are alternately and continuously recorded next to each other in said shared area.

19. (currently amended) The write-once-type recording medium according to claim 17, wherein the evacuation data and the defect management information are each recorded, repeatedly, a plurality of times, in at least one of said first shared area and said second shared area.

20. (currently amended) A recording apparatus for recording record data onto a write-once-type recording medium comprising: (i) a data area to record therein the record data; (ii) a first control information recording area, which includes a first definite defect management area to record therein defect management information of said data area, to record therein information for controlling at least one of operations of recording and reading in said data area, said first control information recording area being located on inner circumferential side of said data area; and (iii) a second control information recording area, which includes a second definite defect management area to record therein the defect management information of said data area, to record therein information for controlling at least one of operations of recording and reading in said data area, said second control information recording area being located on outer circumferential side of said data area;

(iv) a first shared area, which is disposed between said first control information recording area and said data area, to record therein evacuation data which is record data to be recorded at a position of a defect in said data area and to temporarily record therein the defect management information of said data area; and  
(v) a second shared area, which is disposed between said second control information recording area and said data area, to record therein the evacuation data and to temporarily record therein the defect management information of said data area,

wherein the defect management information includes (i) an evacuation source address which is an address of the position of the defect in said data area and (ii) an evacuation destination address which is an address of a recording position of the evacuation data, and further includes (iii) a start address of said data area, (iv) an end address of said data area and (v) a size of at least one of said first shared area and said second shared area, the defect management information is repeatedly recorded in each of the first definite defect management area and the second definite defect management area,

said recording apparatus comprising:

a first recording device for recording the record data into said data area; and

a second recording device for recording the evacuation data and the defect management information into at least one of said first shared area and said second shared area.

21. (currently amended) The recording apparatus according to claim 20, wherein said second recording device records the evacuation data and the defect management information next to each other, alternately and continuously into said shared area.

22. (currently amended) The recording apparatus according to claim 20, wherein said second recording device uses a border point of a data-recorded-area and a data-unrecorded-area in at least one of said first shared area and said second shared area as start point, to thereby record the evacuation data and the defect management information into the data-unrecorded-area.

23. (currently amended) A recording method of recording record data onto a write-once-type recording medium comprising: (i) a data area to record therein the record data; (ii) a first control information recording area, which includes a first definite defect management area to record therein defect management information of said data area, to record therein information for controlling at least one of operations of recording and reading in said data area, said first control information recording area being located on inner circumferential side of said data area; ~~and~~-(iii) a second control information recording area, which includes a second definite defect

management area to record therein the defect management information of said data area, to record therein information for controlling at least one of operations of recording and reading in said data area, said second control information recording area being located on outer circumferential side of said data area; (iv) a first shared area, which is disposed between said first control information recording area and said data area, to record therein evacuation data which is record data to be recorded at a position of a defect in said data area and to temporarily record therein the defect management information of said data area; and (v) a second shared area, which is disposed between said second control information recording area and said data area, to record therein the evacuation data and to temporarily record therein the defect management information of said data area,

wherein the defect management information includes (i) an evacuation source address which is an address of the position of the defect in said data area and (ii) an evacuation destination address which is an address of a recording position of the evacuation data, and further includes (iii) a start address of said data area, (iv) an end address of said data area and (v) a size of at least one of said first shared area and said second shared area, the defect management information is repeatedly recorded in each of the first definite defect management area and the second definite defect management area,

said recording method comprising:

a first recording process of recording the record data into said data area; and

a second recording process of recording the evacuation data and the defect management information into at least one of said first shared area and said second shared area.

24. (currently amended) A reproducing apparatus for reproducing the record data recorded on a write-once-type recording medium comprising: (i) a data area to record therein record data; (ii) a first control information recording area, which includes a first definite defect management area to record therein defect management information of said data area, to record therein information for controlling at least one of operations of recording and reading in said data area, said first control information recording area being located on inner circumferential side of said data area; and (iii) a second control information recording area, which includes a second definite defect management area to record therein the defect management information of said data area, to record therein information for controlling at least one of operations of recording and reading in said data area, said second control information recording area being located on outer circumferential side of said data area; (iv) a first shared area, which is disposed between said first control information recording area and said data area, to record therein evacuation data which is

record data to be recorded at a position of a defect in said data area and to temporarily record therein the defect management information of said data area; and (v) a second shared area, which is disposed between said second control information recording area and said data area, to record therein the evacuation data and to temporarily record therein the defect management information of said data area,

wherein the defect management information includes (i) an evacuation source address which is an address of the position of the defect in said data area and (ii) an evacuation destination address which is an address of a recording position of the evacuation data, and further includes (iii) a start address of said data area, (iv) an end address of said data area and (v) a size of at least one of said first shared area and said second shared area, the defect management information is repeatedly recorded in each of the first definite defect management area and the second definite defect management area,

said reproducing apparatus comprising:

a reading device for reading the defect management information recorded in at least one of said first shared area and said second shared area; and

a reproducing device for reproducing the record data recorded in said data area or the evacuation data recorded in at least one of said first shared area and said second shared area, on the basis of the read defect management information.



25. (currently amended) The reproducing apparatus according to claim 24, wherein said reading device searches for a border point of a data-recorded-area and a data-unrecorded-area in at least one of said first shared area and said second shared area, to thereby read the defect management information.

26. (currently amended) A reproducing method of reproducing the record data recorded on a write-once-type recording medium comprising: (i) a data area to record therein record data; (ii) a first control information recording area, which includes a first definite defect management area to record therein defect management information of said data area, to record therein information for controlling at least one of operations of recording and reading in said data area, said first control information recording area being located on inner circumferential side of said data area; and ~~and~~ (iii) a second control information recording area, which includes a second definite defect management area to record therein the defect management information of said data area, to record therein information for controlling at least one of operations of recording and reading in said data area, said second control information recording area being located on outer circumferential side of said data area; (iv) a first shared area, which is disposed between said first control information recording area

and said data area, to record therein evacuation data which is record data to be recorded at a position of a defect in said data area and to temporarily record therein the defect management information of said data area; and (v) a second shared area, which is disposed between said second control information recording area and said data area, to record therein the evacuation data and to temporarily record therein the defect management information of said data area,

wherein the defect management information includes (i) an evacuation source address which is an address of the position of the defect in said data area and (ii) an evacuation destination address which is an address of a recording position of the evacuation data, and further includes (iii) a start address of said data area, (iv) an end address of said data area and (v) a size of at least one of said first shared area and said second shared area, the defect management information is repeatedly recorded in each of the first definite defect management area and the second definite defect management area,

said reproducing method comprising:

a reading process of reading the defect management information recorded in at least one of said first shared area and said second shared area; and

a reproducing process of reproducing the record data recorded in said data area or the evacuation data recorded in at

least one of said first shared area and said second shared area,  
on the basis of the read defect management information.

27. (currently amended) A computer program product for recording control in a computer-readable medium for tangibly embodying a program of instructions executable by a computer provided for a recording apparatus, said program making the computer function as at least one portion of a first recording device and a second recording device,

said recording apparatus for recording record data onto a write-once-type recording medium comprising: (i) a data area to record therein the record data; (ii) a first control information recording area, which includes a first definite defect management area to record therein defect management information of said data area, to record therein information for controlling at least one of operations of recording and reading in said data area, said first control information recording area being located on inner circumferential side of said data area; ~~and~~ (iii) a second control information recording area, which includes a second definite defect management area to record therein the defect management information of said data area, to record therein information for controlling at least one of operations of recording and reading in said data area, said second control information recording area being located on outer circumferential side of said data area; (iv) a first shared area, which is

disposed between said first control information recording area and said data area, to record therein evacuation data which is record data to be recorded at a position of a defect in said data area and to temporarily record therein the defect management information of said data area; and (v) a second shared area, which is disposed between said second control information recording area and said data area, to record therein the evacuation data and to temporarily record therein the defect management information of said data area,

wherein the defect management information includes (i) an evacuation source address which is an address of the position of the defect in said data area and (ii) an evacuation destination address which is an address of a recording position of the evacuation data, and further includes (iii) a start address of said data area, (iv) an end address of said data area and (v) a size of at least one of said first shared area and said second shared area, the defect management information is repeatedly recorded in each of the first definite defect management area and the second definite defect management area,

said recording apparatus comprising:

said first recording device for recording the record data into said data area; and

said second recording device for recording the evacuation data and the defect management information into at least one of said first shared area and said second shared area.

28. (currently amended) A computer program product for reproduction control in a computer-readable medium for tangibly embodying a program of instructions executable by a computer provided for a reproducing apparatus, said program making the computer function as at least one portion of a reading device and a reproducing device,

said reproducing apparatus for reproducing the record data recorded on a write-once-type recording medium comprising:

- (i) a data area to record therein record data; (ii) a first control information recording area, which includes a first definite defect management area to record therein defect management information of said data area, to record therein information for controlling at least one of operations of recording and reading in said data area, said first control information recording area being located on inner circumferential side of said data area; ~~and~~ (iii) a second control information recording area, which includes a second definite defect management area to record therein the defect management information of said data area, to record therein information for controlling at least one of operations of recording and reading in said data area, said second control information recording area being located on outer circumferential side of said data area;
- (iv) a first shared area, which is disposed between said first control information recording area and said data area, to record

therein evacuation data which is record data to be recorded at a position of a defect in said data area and to temporarily record therein the defect management information of said data area; and (v) a second shared area, which is disposed between said second control information recording area and said data area, to record therein the evacuation data and to temporarily record therein the defect management information of said data area,

wherein the defect management information includes (i) an evacuation source address which is an address of the position of the defect in said data area and (ii) an evacuation destination address which is an address of a recording position of the evacuation data, and further includes (iii) a start address of said data area, (iv) an end address of said data area and (v) a size of at least one of said first shared area and said second shared area, the defect management information is repeatedly recorded in each of the first definite defect management area and the second definite defect management area,

said reproducing apparatus comprising:

said reading device for reading the defect management information recorded in at least one of said first shared area and said second shared area; and

said reproducing device for reproducing the record data recorded in said data area or the evacuation data recorded in at least one of said first shared area and said second shared area, on the basis of the read defect management information.